



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/052,552      | 01/23/2002  | Goo-Man Park         | P56637              | 4920             |

7590

04/04/2006

Robert E. Bushnell  
Suite 300  
1522 K Street, N.W.  
Washington, DC 20005

|          |
|----------|
| EXAMINER |
|----------|

LE, VU

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2621

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/052,552

Applicant(s)

PARK ET AL.

Examiner

Vu Le

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see Response, filed December 21, 2005, with respect to the rejection(s) of claim(s) 1-25 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kirsten, US 6,011,901.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Kirsten, US 6,011,901.

Re claims 1-2, and 8, Kirsten discloses a multi-channel image encoding apparatus and method (figs. 2-5, 8) for selectively receiving image signals (70) transmitted through a plurality of input channels (cameras 1-8) and encoding (74) the image signals, comprising:

a channel data processor (*see col. 9, line 7-40, figs. 4-5, 8: 72, 102 & 104 serve as channel data processor for selectively storing and outputting selected data*)

Art Unit: 2621

comprising a frame buffer group including a plurality of frame buffers for each input channel in order to receive a plurality of frame data through the plurality of input channels and to store the plurality of frame data (*i.e. 102, which consists of memory arrays*), the channel data processor for selecting data transmitted to the frame buffer group to output the selected data (*the selected output data is outputted from 102*), the channel data processor storing each unit of the frame data into the frame buffer group corresponding to each channel in accordance with a set-up input channel selection order (col. 9, line 29-35, Note: *the field/frame capture consists of memory arrays to store an array of image data in a particular array locations based on an order from selector control 114-see col. 10, line 30-49*);

and an encoder for encoding image signals output from the channel data processor with a Moving Picture Experts Group method (74, col. 12, line 52 – col. 13, line 25).

Re claim 3, which further recites “the channel data processor comprising: a first multi-switch unit for selectively contacting each of the input channels with the frame buffer group of corresponding to each of the input channels; and a second multi-switch unit for selectively contacting with the frame buffer group and outputting data output from the frame buffer group to the encoder”, Kirsten discloses this aspect (*see figs. 4-5 which clearly show the first and second multi-switch unit as claimed*).

Re claim 4, the limitations as claimed have been analyzed and rejected w/r to claims 1 and 3 above.

Re claim 5, which further recites “the encoder comprising: a discrete cosine transformer for performing a discrete cosine transform with respect to the image signals input from the second multi-switch unit; a quantizer for quantizing signals output from the discrete cosine transformer and outputting the quantized signals; an inverse quantizer for inversely quantizing the quantized signals; an inverse discrete cosine transformer for performing an inverse discrete cosine transform with respect to the inversely quantized signals; a prediction memory; an adder for adding data output from the prediction memory and the inversely discrete cosine transformed data, and outputting the added data to the prediction memory; and a subtracter for subtracting data output from the prediction memory from signals input through the second multi-switch unit, and outputting the subtracted signal to the discrete cosine transformer”, Kirsten discloses the above (see figs. 4-5:74, *which also exemplified in details in figs. 11C & 11D, col. 12, line 66 – col. 13, line 25, Note: Kirsten discloses an MPEG encoder which inherently incorporates all of the above limitations of an encoder as claimed*).

Re claim 6, which further recites “the encoder further comprising: a variable length encoder for performing a variable length encoding with respect to signals output from the quantizer, and outputting the encoded signals; and a parser for loading channel information about each frame to signals output from the variable length encoder, and outputting the signals”, again, Kirsten discloses the above (see figs. 4-5:74, *which also exemplified in details in figs. 11C & 11D, col. 12, line 66 – col. 13, line 25, Note: Kirsten discloses an MPEG encoder which inherently incorporates all of the above limitations of an encoder as claimed*).

Re claim 7, which further recites “a channel selection unit including a key for setting up a channel select pattern in regard to the plurality of input channels; and a channel controller for controlling the first multi-switch unit and the second multi-switch unit in accordance with the channel select pattern set up by the channel selection unit”, with reference to the discussion in claims 1-3 above, further, Kirsten discloses the acquisition controller 104, which controls to channel selection in a particular order, communicates with the CPU 112 via bus 112. The CPU actually directs the acquisition of image via the acquisition controller. Hence, the CPU serves as the channel selection unit with a key to set up channel select pattern as claimed (see col. 9, line 18-28, col. 12, line 43-51).

Re claim 9, most of the limitations have been analyzed and rejected w/r to claims 1-2 and 8 above. With respect to the “a prediction memory” as further recited, Kirsten discloses this aspect (see e.g., figs. 11C & 11D, the prediction memory for each respective channel is shown as 208-1 to 208-8).

Re claim 10, see claim 3.

Re claim 11, see claims 5 and 9.

Re claim 12, see claim 6.

Re claim 13, see claims 7 and 9.

Re claim 14, see claims 1-2, and 8-9.

Re claim 15, most of the limitations have been analyzed and rejected w/r to claims 1-2 and 8-9. With respect to the "encoder for calculating a similarity by comparing image signals output from the channel data processor and the previous frame data stored in the frame memory provided for corresponding channels, and selecting one mode among a plurality of encoding modes set up differently for each other in regard to the present frame data in accordance with the calculated similarity and encoding according to the selected encoding mode" as claimed, Kirsten also discloses the above (see *figs. 11A-11D, col. 12, line 52 – col. 13, line 11. Note: the coding modes are "intraframe" and "interframe" coding modes*).

Re claim 16, see claim 15.

Re claim 17, see claim 15.

Re claim 18, see claim 3.

Re claim 19, see claim 15.

Re claim 20, see claim 15. Further, the MPEG encoder disclosed in Kirsten inherently incorporates "macro block unit, and determining an encoding mode with the macro block unit".

Re claim 21, see claim 15.

Re claim 22, see claim 7.

Re claim 23, see claim 15.

Re claim 24, see claim 15.

Re claim 25, see claims 15 and 20.

### **Contact**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu Le whose telephone number is (571) 272-7332. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, James Groody, can be reached on (571) 272-7950. Customer Service can be reached at (571) 272-2600. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vu Le  
Primary Examiner  
AU 2621  
(571) 272-7332  
Vu.Le@uspto.gov

